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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,374	01/26/2001	Kalpesh Dhanvantrai Mehta	10559-177001 / P8237	6479
20985	7590	03/08/2006	EXAMINER	
FISH & RICHARDSON, PC			ZHEN, LI B	
P.O. BOX 1022			ART UNIT	
MINNEAPOLIS, MN 55440-1022			PAPER NUMBER	

2194

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/771,374

Applicant(s)

MEHTA, KALPESH  
DHANVANTRAI

Examiner

Li B. Zhen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,5,9,10 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,5,9,10 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

WILLIAM THOMSON

SUPERVISORY PATENT EXAMINER

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 4,5,9,10 and 14-20 are pending in the current application.
2. In view of the appeal brief filed on 12/19/2005, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 14 – 16 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 20 recites a controller managing access to a shared resource and dependent claim 16 further defines the controller device as a memory controller. A shared resource as discloses in the specification can be central processing units, memory, as well as other devices [p. 1, lines 10 – 11]. It is unclear as to how a memory controller can be used to control access to a central processing unit or other devices. The specification does not implicitly or explicitly disclose how a memory controller can be used to control access to a central processing unit or other devices.

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Examiner notes that although dependent claim 17 defines the shared resource as a shared memory bank, independent claim 20 only recites a shared resource, which according to the specification includes central processing units, memory, as well as other devices.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 17 recites the limitation "the shared memory resource" in lines 1 - 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 4, 9, 14 and 16 – 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,820,263 to Klappholz.**

10. As to claim 18, Klappholz teaches a method, comprising:

assigning an access value [time counter 24; col. 6, line 58 – col. 7, line 3] and a relative priority value [Each process is associated with a specific class and each class has associated rights and priorities; col. 4, line 66 - col. 5, line 21] to each of a plurality of computer processes [Each process is associated with one of the classes so that each process inherits the execution time slice from the class of which the process is a

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member; col. 4, lines 20 – 35] which request access to a shared computer resource [parallel processor shared memory system 10, Fig. 1; col. 4, lines 51 – 65], where the priority value can be high priority or low priority [ready queues 31 are arranged by class, in a manner well known in the art. Each process is associated with a specific class and each class has associated rights and priorities which are peculiar to the class; col. 4, line 66 - col. 5, line 22 and col. 5, lines 37 – 41];

during a first access cycle [scheduler program to perform the respective steps A-F in a cyclical series of steps that is repeated at each timed interrupt; col. 5, lines 22 – 56], first providing access to processes whose access value represents high priority [scheduler moves the process (step B) to a one of the ready queues dictated by a class with which the process is associated; col. 5, lines 22 – 56] and whose access value represents that access should still be granted [When a process is switched in (at 44), the scheduler program initializes the time counter 24 to a value representative of a duration of time slice 42. Thereafter, the processor 12 decrements the time counter 24 at regular intervals; col. 6, line 58 - col. 7, line 3], and after granting each access, adjusting an access value associated with said each access, to indicate that additional access has been granted [decrements the time counter 24 at regular intervals; col. 6, line 58 - col. 7, line 3];

determining that all high priority requests have access values that indicate that no additional access should be granted [respective ready queues 31 are first-in first-out (FIFO) queues. Processes are added to a rear of the ready queue 30 and are moved to the processor 12 when they have advanced to a front of the ready queue 31; col. 4, line 66 – col. 5, line 21];

responsive to said determining, providing access to low priority requests whose access values represent that access should be granted, and adjusting access values after granting the access [col. 6, line 58 - col. 7, line 3]; and

after determining that both the high priority requests and low priority requests each have access values that represent no further access should be granted, starting a new access with new access values and priority values [a process is switched in to one

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of the processors 12 at 56, and the time slice counter is initialized by the scheduler program to the engineered interval associated with the class; col. 7, lines 28 – 42].

11. As to claim 19, this is a product claim that corresponds to method claim 18; note the rejection to claim 18 above, which also meets this product claim.

12. As to claim 20, this an apparatus claim that corresponds to method claim 18; note the rejection to claim 18 above, which also meets this apparatus claim.

13. As to claims 4, 9 and 14, Klappholz teaches isochronous processes [col. 5, line 57 – col. 6, line 22].

14. As to claim 16, Klappholz as modified teaches the controller is a memory controller [col. 4, lines 51 – 65].

15. As to claim 17, Klappholz teaches the shared memory resource is a shared memory bank [main shared memory 16; col. 4, lines 51 – 65].

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 5, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klappholz in view of “Applied Operating System Concepts” [hereinafter referred to as Silberschatz].**

18. As to claims 5, 10 and 15, Klappholz does not specifically teaches asynchronous processes.

However, Silberschatz teaches asynchronous processes [asynchronous system call; p. 418, lines 1 - 13].

It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of asynchronous processes as taught by Silberschatz to the invention of Klappholz because an asynchronous call returns immediately without waiting for the request to complete [p. 418, lines 1 – 3 of Silberschatz].

### **Conclusion**

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,272,517 to Yue et al. teaches allowing a first thread to share its remaining time quantum with a second thread when the first thread is blocked.

### **CONTACT INFORMATION**

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lbz

  
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SUPERVISORY PATENT EXAMINER

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